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What text editor do you use?

PyCharm, VSCode, vim, git in the command line
VS Code (sometimes nano; rarely emacs)
VS Code (with vim keybindings!!!)
Notepad ++
vim (for shell scripts), Atom for code
RStudio (occasionally macOS terminal or Atom)-- +1 loving the Tufte package for class notes
Atom for code, terminal for git
Vim for code, HackMD (markdown) for docs
RStudio and Emacs (sometimes notepad - yucks)
Vim, Rstudio
Subime Text

Here's a list of participants. The instructors/helpers might copy/paste this list for use in other parts of the etherpad. Please add your name if it isn't on the list.

- Jason Tinant -- jtinant@olc.edu
- Adrienne Stilp -- amstilp@uw.edu
- Andrii Zaiats
- Benjamin Winjum -- bwinjum@ucla.edu
- Calvin Pritchard -- calvin.pritchard@asu.edu
- Cristina Barber
- Dana Gehring-danag@olc.edu
- Hannah Ake - hake@mwdh2o.com
- Hannah Eve Houts - hehouts@ucdavis.edu, twtr @hannahhouts, github @hehouts
- Lindsay McPhail - LMcPhail@mwdh2o.com
- Marcia Ferreira
- Nishrin Kachwala - nishrin.kachwala1@gmail.com, www.linkedin.com/in/nishrin-kachwala
- Owen McGrath

- Peter Olsoy - peterolsoy@boisestate.edu
- Qiyang Hu- huqy@idre.ucla.edu
- Rachel Arnold - rachelj@nwic.edu
- Tej V. Singh - tvsingh@ucla.edu
- Wendy Christensen wendy.christensen@du.edu
- Sarah Stone - sstone3@uw.edu
- Ariel Rokem (arokem@uw.edu)

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- Nishrin Kachwala
- Owen McGrath
- Peter Olsoy
- Qiyang Hu
- Rachel Arnold
- Tej V. Singh:
- Wendy Christensen

What are you an expert on? What are some concepts/facts in this domain? What are relationships between concepts and facts in this domain?

- Jason Tinant: stream hydrology -- concepts:: precip drives streamflow, earth interactions create variations in flow, facts:: streamflow is physics-based: water moves from a higher gradient to a lower gradient -- the rain on a hill flows downhill all by itself (and gravity), earth interactions create varying degrees of channel roughness (friction) that reduces the velocity of the water in the stream channel -- think about how water flows across a lawn vs how water flows down a concrete .
- Adrienne Stilp - area: knitting; concepts: how to choose a yarn to use, how to read a pattern, how to make different types of stitches; relationships: how the yarn you choose and the stitches you make influence how the final product looks, will it fit you?, how to modify a pattern for a more customized final product, also motor skills
- Andrii Zaiats - ecology of plants - how a plant responds to stress and what heppens to it over time. This could be observed/measured in many different ways but the underlying mechanims are unifying across different approaches.
- Benjamin Winjum: laser-plasma interactions relevant to inertial confinement fusion; how light waves and plasma waves behave and interact, how to mathematically represent their evolution, what the laser does to drive a fusion energy process; relationships: how different abstract equations can be derived from fundamental laws, how those laws inform the interaction of light and plasma waves, how the interaction

of the light/plasma waves impacts the processes driving fusion
- Calvin Pritchard: data transformation (how to clean, aggregate, project and stack data into the right shape), model formalisms (understanding how to simulate a system using discrete event, difference equations and how to get a computer to do it, when adopting a particular method is likely to be worth while)
- Cristina Barber-tropical ecology--concepts: how plants compete for light, how plants recruit based on their functional traits. Relationships--The competition for light is part of why plants develop their functional traits and hence how they recruit.
- Dana Gehring -dachshunds-training, grooming, breeding, genetics, showing, hunting, relationships with humans, socialization with humans and other dogs-knowledge about training young puppies to learn to track and hunt to make successful hunters.
- Hannah Ake - Scuba Diving - knowledge of equipment and what it does, comfort in water, navigation, knowledge of environmental effects and limitations on the diver. Relationships - If equipment fails, how should I react? If the environment changes, how should I adjust my equipment and body to compensate for that environmental change?
- Hannah Eve Houts - smoothie making -- concepts: choose ingredients, choose form of ingredients, toppings and serveware, relationships: flavor combinations, homogenization of liquids, texture adjusting, frozen/liquid ratios,
- Lindsay McPhail - the nearby parks to my home -- where the trail systems lead/distance/time to hike, when are they most/least crowded, when is the best time to go (views, outside temperature, solitude)
- Marcia Ferreira expert in finding random information, finding solutions for issues, creating presentations that tell a story, teaching myself what i need to learn to solve a problem
- Nishrin Kachwala : translating technology for a non-technical audience, Teaching, Storytelling, understanding customer needs, Physics, Mathematics, Classical Dance. How to connect a the learner to a subject so that they get the max out of the lesson
- Peter Olsoy: remote sensing -- the electromagnetic spectrum, what different wavelengths can tell you; sensors (imagery, lidar, hyperspectral, multispectral) ; platforms (drones, airplanes, satellites); ecological patterns and processes; plant phenology; scales (temporal, spatial, radiometric); mapping
- Qiyang Hu: high performance computing in material modelling, machine learning/deep learning applications in scientific research
- Rachel Arnold : molecular phylogenetics; evolutionary history of genes, primer design and concepts, bioinformatic pipelines
- Tej V. Singh: Mathematics - Logic leads to Math and Math is about logic - advanced math is all about logic
- Wendy Christensen: general linear models - testing mean differences (via t-tests and ANOVA), population values of regression weights, and relationships between endogenous/exogenous variables - t-tests and ANOVAs are special cases of regression, which is what structural equation modeling is built upon (that is, none of these is actually different; they just look different).
-Owen McGrath: educational technology, usage analytics, accessible technology, IT strategy, driving a car

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What types of *formative* assessment do you know?

- Jason Tinant -- "what questions do you have?" Short- feedbacks throughout to engage the learner. "how do you feel about this..." -- which provides for culture/feelings vs. facts and logic
- Adrienne Stilp -- socratic method (ask questions to lead instructee to an understanding), Codecademy style learning (give a problem and ask the instructee to solve it with immediate feedback)
- Andrii Zaiats - a group vote on agree/disagree to a statement

- Benjamin Winjum - multiple-choice questions, word problems
- Calvin Pritchard - quick multiple choice, sticky notes for having trouble with a concept, break up into groups and create a quick summary / analysis applying your knowledge
- Cristina Barber-multiple choice, answer an anonnymous question in class using an app, asking questions that require some level of logic
- Dana Gehring-do you have any question, checkpoint questions on concepts, draw a diagram of what has been presented, using breakout room so that students that might feel more comfortable with their answers,
- Hannah Ake - Socratic seminars
- Hannah Eve Houts -"if you did x, what would you expect to happen? why?"
- Lindsay McPhail -- poll questions as knowledge checks
- Marcia Ferreira
- Nishrin Kachwala : small projects to test knowledge
- Peter Olsoy -- multiple choice polls
- Qiyang Hu: design TRICK questions to boost the students to think deep
- Rachel Arnold
- Tej V. Singh: asking direct question and see raised hands ..
- Wendy Christensen -- Conceptual questions asked after presenting something that someone could answer with the reviewed information provided their mental model about the material is correct; live polls; "think, pair, share" or group discussion
-Owen McGrath - group project presentation

- Jason Tinant -- the stream pattern in the photo (limestone stream -- not shown-unfortunately) is a) dendritic, b) parallel, c) radial, d) perpendicular [this particular stream is showing a parallel pattern caused by faulting, which expresses well in limestone geologies]
- Adrienne Stilp - What causes the seasons? a) how close the earth's orbit is to the sun. b) The tilt of the earth. c) How full the moon is. d) How cloudy the atmosphere is.
- Andrii Zaiats - what would a be a result of c("a", 2) in R? "a2", "a" "2", 2a, error
- Benjamin Winjum -- What is the output of "ls example.txt"? 1) prints the name of the file "example.txt", 2) prints the file path for example.txt, 3) prints the names of files that are in the same directory as example.txt, 4) prints information about the file example.txt
- Calvin Pritchard -- The raw datasets (shown above) needs to be transformed into a different form (show above to the right) to be useful. What series of transformations will result in the correct result? a) left join table a with table b on (noks_pk, pk); filter the dataset to only include people with NOCS codes in the 20s or NULL. b) inner join table a with table b on (noks_pk, pk); filter the dataset to only include people with NOCS codes in the 20s or NULL. c) create a new column noks_pk on table b that has transformed noks into an integer value; left join table a with table b on noks_pk (same name in each table); filter the dataset to only include people with NOCS codes in the 20s or NULL. d) both 'a' and 'c' are correct (but 'a' is less work)
- Cristina Barber How do you save the object "data" in a csv in R? a) data.write.csv(file="data.csv") b) write.csv(data, file="data.csv"), c) write.csv(data, file=data.csv), d) write.csv(data, file="data")
- Dana Gehring What organelle in the cell is the location of photosynthesis? a) mitochondria, b) chloroplast, c) chlorophyll
- Hannah Ake - What piece of SCUBA equipment is pictured? 1) First stage 2) Second Stage 3) Octopus [correct answer first stage]
- Hannah Eve Houts --"an isolated strain of an unknown bacteria gram stains light purple. The stain procedure is adjusted to use an acetic acid/alcohol blend, and under this new procedure the cells stain pink. which of the following are true?" a.) the isolate is Gram Postitive [F, misunderstanding the effect of

mycolic acid on traditional gram stain procedure] b.) the isolate is not Acid-fast, so it is gram negative [F, misunderstanding definition of "postive" acid fast result] c.) the isolate has mycolic acid in its cell wall, so it is gram negative [F, wrong reason for gram result] d.) the isolate has a thin cell wall, that includes mycolic acid [True]
- Lindsay McPhail -- What is the first order derivative of 2x^3?: A) 6x, B)8x^2, C) 6x^2, D)8x^3
- Marcia Ferreira
- Nishrin Kachwala Python real floor division operator: what is 5//2 ? a) 2.5 b) 2 c) 5
- Peter Olsoy - What two wavelengths are often used to measure health of vegetation? A) Green and Red; B) UV and Visible; C) Near-infrared and Red || Identify the bird in this photo [Greater Scaup]: A) Lesser Scaup, B) Greater Scaup, C) Redhead, D) Warbler
- Qiyang Hu: Do you think freezing up a general well-pretrained deep learning model used in Transfer Learning can speed up the training process? a) Definitely; b) No way, it will alwyas be slower than the specific designed model; c) It depends on the problem.
- Rachel Arnold -- Identify the following 5'-3' DNA sequence that matches the reverse of the 5' AGCCAGGA 3' sequence: a) TCGGTCCT, b) AGGACCGA, c) TCCTGGCT
- Tej V. Singh: how many cms in a meter: no relation, .01, 100, 10
- Wendy Christensen -- "For the estimated regression equation "y-hat = 13 + 2*x1 - 4*x2", what is the expected/predicted value when all predictors are equal to zero? a) 13 (correct, is the intercept); b) 2 (incorrect, x1's coefficient); c) 9 (incorrect, intercept + x2's coefficient); d) 11 (incorrect, summed all coefficients)
-Owen McGrath --When parking on a hill with car facing downwards, the wheel should be turned a) toward the curb, b) away from the curb, c) straight.

- Jason Tinant -- "self-evident", "simply", language implying judgement of the learner's frame
- Adrienne Stilp -- "as you know" (if you aren't sure that they do know it), "this is really easy", "it is clear that..."
- Andrii Zaiats - simply, can be seen, is apparent
- Benjamin Winjum simple, it can easily be shown that,
- Calvin Pritchard you should know, it should be obvious that
- Cristina Barber obviously, it is common knowledge, this is basic
- Dana Gehring-already know this from your previous classes, we talked about this last week..., remember we talked about this already
- Hannah Ake - actually, as you can tell
- Hannah Eve Houts - simply, "its well known", "Its pretty straightfoward"
- Lindsay McPhail - basic, easy, you should know, using a lot of jargon/acronyms without defining
- Marcia Ferreira
- Nishrin Kachwala ONLY, SHOULD
- Peter Olsoy - like I said yesterday, we'll start off easy
- Qiyang Hu: as simple as it is, ...
- Rachel Arnold "if you just", "only a matter of following the directions"
- Tej V. Singh:easy, obvirously, minor
- Wendy Christensen -- "easy", "toy example"
-Owen McGrath: the "trivial" case .. "trivial" result .. "trivial" implementation

https://signalvnoise.com/posts/439-four-letter-words

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DAY 2:

Anonymous feedback online question: Google Forms or anonymous Etherpad colors

Provide feedback on the example teaching video. Organize your feedback along two axes: positive vs. negative and content (what was said) vs. presentation (how it was said).

- Jason Tinant -- Content (+) not sure -- I am a Python novice. Content(-) A lot of big words (and judgemental words. Presentation (+) live coding CAN be good, Presentation (-) pace was difficult with a lot of big mumbled words.
- Adrienne Stilp: positive presentation: gave explanations about what was happening as he did it; positive content: live demos are useful to provide a concrete example for students; negative presentation: dismissive language ("this is simple", "everyone can see", "it's what you expect"); negative content: too many concepts introduced at once. need to pause between concepts to make sure students understand that concept before moving on to the next
- Andrii Zaiats - positive presentation: the instructor seems knowlegeble and proficient in the concepts. the pace is pretty fast, which could be either good or not so good depending on the audience. negative presentation: jumps back and forth in the content, uses phrases like "don't worry about this for now", quite techical in the presentation. positive content:the discussion seems to stay around functions. negative content: not connected to previous concepts
- Benjamin Winjum -- positive content: worked from simple to hard examples, building on previously explained concepts; negative content: used too many words that this audience would (I assume) not be familiar with like polymorphic and instantiation; positive presentation: was talking about exactly what he was typing; negative presentation: used many words like "simple", "take my word for it", "just", ...
- Calvin Pritchard: positive: interactive example where you could see mistakes being made in real time and how to correct them. negative: distracted throughout lecture, use of dismissive language, lecture about functions has no goal that people can relate to (most people interested in programming will want to know how to do some io to get feedback), doesn't go over key concepts about functions and variable binding (what are the python scoping rules with some examples), no introduction, no feedback requested through the lecture, development workflow isn't typical (all development occuring in the REPL instead of in an editor)
- Cristina Barber positive: presentation-asked if people had questions, live coding, content-simple function examples| negative: Presentation- He went too fast and did not check with students between chunks, used sentences like this is simple the code was too small in the screen, content-Starte to explain without any recap, he did not explain something and just said trust me.
- Dana Gehring-presentation: positive: showing what he is doing while talking, negative: talking too fast; content: postitive: providing examples, negative: assuming people know other programs and using words like "ignore this" etc
- Hannah Ake Content: Negative - No overarching goal of the lesson introduced / Positive - Asked for questions | Presentation: Negative - Went through the demonstrations too quickly / Positive - Displayed actions on screen as he was doing them
- Hannah Eve Houts- + asked for questions + used live coding, - said "just" a lot, - rude to students when starting the lecture,
- Lindsay McPhail -- positive content: started with a foundational concept (functions); positive presentation: was demonstrating concepts via 'live coding'; negative content: jumped around on concepts, and there were likely knowledge gaps (introduced 'higher order functions' and 'parameters' later on

without defining); negative presentation: didn't seem to be prepared with a fluid order and was distracted, which makes it difficult for students to follow and grasp the main ideas
- Marcia Ferreira - positive presentation: live coding, moving from computer to screen to point what is being said. negative presentation: cannot see the coding on the screen, several instances of dismissive languge eg: "if you don't know a function, trust me this is what you get"
- Nishrin Kachwala - instructor assumes its really easy for everyone and they should get it right away. Distraction by phone is a big negative while teaching. In coding visual helps over slides and following along doing the exercise is even better for retention and inderstanding the concept.
- Peter Olsoy -- positive content: functions are useful concepts that people should learn about in programming; negative content: skipped over important details, made mistakes and didn't explain what or why you were supposed to do something else; positive presentation: live coding is useful to demonstrate the material and so that others can work along with you; negative presentation: used pretty much all of the words you aren't supposed to [dismissive language] (really easy, as you'd expect, etc.), pulled out phone, berated a student
- Qiyang Hu
- Rachel Arnold -- positive content: seemed focused and not too many concepts being introduced at once ; negative content: use of complex problems to demonstrate a new concept, didn't appear to have thought out examples ahead of time; positive presentation: voice was loud enough to hear, use of the screen to show typing of commands is something I like ; negative presentation: dismissive, didn't ask for questions, went fairly fast
- Tej V. Singh: content: not clear, but seems important
presentation: lot of assupmtions regarding lerner's state. It will be useful to explain thing in detail rather than assuming learners to be at the same state of mind as presenter. positive- presenter seems to be expert because he is distracted many a times but still continued the presentation.
- Wendy Christensen: Content: (+) evident that thought was put in about what was going to be presented, did the coding exercise live (-) Not clear what was going to be presented, no time for students to "digest" what was being presented. Presentation: (+) Live coding (was there also a "static" reference available?) (-) Very fast, hard to see the text on the screen.
-Owen McGrath - content (+): at least had it broken down to a topic, i.e., function syntax; (-) did not have well prepared example; presentation (+): he was at least aware that there was an audience; (-) no interest in audience member's actual understanding - just trying to get through the materail quickly.

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Feedback exercise #2:

1. Split into groups of three.
2. Individually, spend 5 minutes preparing to teach a 90-second segment of the lesson episode you chose before the start of the training course. No live coding. We recommend using this 90 second teaching moment to introduce the topic of your lesson.
3. Get together with your group and have each person teach their segment to the group. Keep a strict time limit of 90 seconds per person (one person should be responsible for the timekeeping).
4. After each person finishes, give them feedback. Please write down this feedback.
5. After everyone goes, we will return to the main group and put everyone’s feedback about you into the Etherpad.

- Jason Tinant -- (+) detailed explanation of "simple" things, live coding is helpful in keeping attention ; (-) be careful with using the word "simple" (even if it is a simple operation) -- Words mean things :-)
- Adrienne Stilp -- (+) appreciated the intro of the previous content. Good setup for lesson of explaining goals and what we will be doing. (-) (We ran out of time in our group and didn't get to this.)

- Andrii Zaiats
- Benjamin Winjum -- (+) delivery & explanation, (-) would be helpful to do concept map, live coding, set up context
- Calvin Pritchard: lecture was dependent on too background information (not enough context), tripped over some of the initial requirements for setting up the project environment.
- Cristina Barber
- Dana Gehring-positive: content, explained that it was for ecologists and biologists; value-welcoming atmosphere; negative: start out with an example of good or bad uses of spreadsheets
- Hannah Ake - positive: started with a question to introduce topic, explained why topic was important - negative: introduced terminology that I wasn't going to explain until later
- Hannah Eve Houts -- visual examples, and maybe an example of a "clean" data set would have helped.
- Lindsay McPhail -- (+) asked in the beginning "show of hands - who has heard of/used RStudio?", explained why RStudio is used, stated the questions the class would be able to answer by the end of the day; (-) display to the students today's topics and the steps of an example, wasn't able to get to the meat of anything...
- Marcia Ferreira positive: good summary and good use of the 90 seconds. negative: assumed everyone had the same version of excel.
- Nishrin Kachwala : explaination of HTML basic file was good, with output. try not to use simple(meant as a simple example), as that may be considered dismissive. I think I went over 90 min.
- Owen McGrath good pace - be careful about terms that aren't needed, e.g. floating point
- Peter Olsoy: positive - introduced code, had helpers, good pace; constructive: set up sequence of steps first
- Qiyang Hu
- Rachel Arnold : ran out of time
- Tej V. Singh: positive: Introduction was appropriate
negative: setup of the screen should be from scratch
- Wendy Christensen -- (+) liked concrete, detailed examples; (-) visual aid would be helpful, mind time

Suggested prompts for feedback:

- “What is one thing I could have done as an instructor to make this lesson more effective?”
- “If you could pick one thing from the lesson to go over again, what would it be?”
- Balance positive and negative feedback.
    - Ask for or give “compliment sandwiches” (one positive, one negative, one positive)
    - Ask for both types of feedback, and give both types.
- When sharing negative feedback, provide a clear next step to follow that will help the recipient improve.
- Communicate expectations. If your teaching feedback is taking the form of an observation (and you are comfortable enough with the observer), tell that person how they can best communicate their feedback to you.
- When giving feedback, remember that giving and receiving feedback is a skill that requires practice, so do not be frustrated if your feedback is rejected but try to think about why the recipient might not have been comfortable with the feedback you gave.
- Use a feedback translator. Have a fellow instructor (or other trusted person in the room) read over all the feedback and give an executive summary. It can be easier to hear “It sounds like most people are following, so you could speed up” than to read several notes all saying, “this is too slow” or “this is boring”.

DAY 3

- Jason Tinant (+) seeing how the sausage is made -- shows errors are part of the process, seeing different tips & tricks, its fun as a student to follow along. (-) when the instructor fails, the failure can be big -- especially if the instructor loses thier poise (going into error-correcting mode).
- Adrienne Stilp -- (+) forces instructor to slow down so more time for students to see what's happening. (-) can be confusing if there are too many mistakes made during live coding
- Andrii Zaiats - advantages: live demonstration, verbal explanations with live examples and procedures, emphasized everyone makes mistakes/refers to help pages etc. disadvantages: typos can be confusing, generally doesn't go as smooth as prepared scripts/slides, different levels of student backgrounds
- Benjamin Winjum - advantages: students get to see the code in action, they can follow along with the examples and tinker with the commands to see what happens; disadvantages: if someone is slow to follow the syntax or grasp what is going on, it may be difficult to understand the larger conceptual picture; it may be possible to get stuck on errors and run into roadblocks
- Calvin Pritchard - (+) students gets to see your problem solving and debugging process when you make a mistake and they can get a better for how someone with software development experience iteratively creates a piece of software and how logging and testing can be used in the development process (watched unit tests). (-) doesn't provide a design overview
- Cristina Barber-- (+) you can teach how to trouble shoot, it is a more visual way of teaching, is practical, so it whould be taught practicing it, (-) Students might just copy what the teacher is doing and not think about the problem, things dont always go perfect and you could get stock.
- Dana Gehring-adv: students get to do it along with you and if they have questions you can help (as lindsay was talking one of my fav classes in grad school was a neurobiology course where the instructor used diff colored chalk and drew out the processes on the board and we were expected to do that on our papers, best class); disadv: can leave students behind depending on how fast the instructor goes, if they go too slow then some students will get ahead and may do things incorrectly
- Hannah Ake - advantage: ability to demonstrate how to proof errors as they come up, disadvantage: can be hard to follow along if the instructor moves at a fast pace
- Hannah Eve Houts - A: potential to catch errors in the materials, demonstrate debugging, more engaging. D: in the case of bugs, can derail lesson and delay schedules. May discourage interuptions for questions
- Lindsay McPhail -- advantages: the student is actively practicing the skill (rather than watching via a PPT lecture), students are also working alongside their peers, it's efficient. disadvantages: need additional staff to help troubleshoot during the lesson, students might fall behind if the pace is too fast or if they have technical issues
- Marcia Ferreira - advantage: easy to practice as the instructor go along. disadvantage: if instructor makes many mistakes it might give the impression that either instructor doesn't know the topic or that the topic is too difficult. From the instructor point of view, live coding has to be reheased to follow a line of thought and not just typing stuff.
- Nishrin Kachwala starting from the basic conceot and building up, putting theory into proactice right away
- Owen McGrath -- pacing, narrative explanation, transparency re: mistakes, follow-along ability
- Peter Olsoy -- + the student can see what they are supposed to be typing and what the expected output is, gets the muscle memory and another way to learn (not just visual); - things can go bad if you mistype and confuse the students, can be hard to type and talk at the same time, and if the learners run into problems or are slow at typing they might ignore what you are saying and fall behind
- Qiyang Hu: (+) easy for audience to reproduce the procedure (-) slow down the concept presentation, (-)

might lost the big picture.
- Rachel Arnold : advantages: can see exact commands and train of thought as they are typed in; get to see instructor's mistakes; disadvantages: often times hard to read a screen, often times the instructor can go too fast and student is just copying to keep up and not paying attention to what is being said, if instructor gets too far ahead, student may be unable to catch up due to code being off screen, students' ability to keep up can be different (some may get bored)
- Tej V. Singh: (+) learners get to see the concepts in action (-) sometimes, it may distract the presenter as well as the learner.
- Wendy Christensen -- (+) it forces the instructor to slow down when discussing code (akin to what happens when you have to physically write on a board while teaching); demonstrates all steps of a process, so less likely to forget to explain secondary but necessary steps (-) Requires live "performance" of coding from the instructor, which can be a little frightening for some instructors, things can go off the rails and instructor must improvise accordingly (which can risk losing credibility if recovery isn't sucessful)

- Jason Tinant (+ content) live demonstration; (- content) too many examples for me (a novice) to follow; (+ presentation) ; (- presentation) spoke too quickly, did not say what he was doing as he was doing it. Pausing and asking for feedback would have been nice.
- Adrienne Stilp -- (+ content) good progression: show original for loop, then explain that you can use a different variable name and shows that. (- content) not sure. (+ presentation) good set up for the exercise by saying what he was going to do, then doing it, and then explaining the results. (- presentation) it would be helpful to epxlain what he's typing (and why) as he types it
- Andrii Zaiats - content: + live demonstration of concepts, - introduces new concepts without explicit connections to the previous material; presentation: + all the steps are on the screen, - runs multiple lines of code without explaining each of them separately, the student had a red post card all the time (no communication with the audience).
- Benjamin Winjum (+ content) showed the consequences of varying a command, (- content) flipped back and forth between separating commands with ";" vs on multiple lines; did not take the opportunity to pause and review his error clearly (+ presentation), text was clear against the background, (- presentation) not full screen (had distraction on right side),
- Calvin Pritchard: (+) showed how results changed for function call by changing inputs. (-) REPL was hard too see. Didn't see anyone checking to see if students could successfully follow along (even though one laptop had a red note on it). Integration of REPL use with watched unit tests and linter (like https://github.com/koalaman/shellcheck) would be helpful for their development practices.
- Cristina Barber (+content) explanation of what are the objects or variables, (+presentation)the size of the screen was good. (-presentation) some people did not have a computer, (-content) did not ask the students about how are they doing
- Dana Gehring-content-I don't feel like I am familiar enough with coding to judge this?; presentation-positive: showing what his is doing live, showing that mistakes can easily be made; negative: possibly went to fast for students to keep up, didn't really explain what he was doing
- Hannah Ake - positive: simple lines of code, didn't introduce a lot of variables | negative: didn't stop after each section to check on the students, didn't look up from the screen, made an error but didn't use it as a teaching opportunity
- Hannah Eve Houts- I liked that he "did the thing" and then explained what happened instead of trying to explain each line before it made sense. I think the text could have been bigger, and maybe should have stopped for questions more

- Lindsay McPhail -- (+ content) code looked organized; (+ presentation) pacing seemed at a good speed for learning, not too fast or slow; (- presentation) notifications were distractions; (- content) give clarification on good methods for variable naming, not just "we chose x because it made the most sense"
- Marcia Ferreira- positive: repeated the same command with different variable names to show that gives the same result. negative: while explaining what each part did, he never looks at the audience nor shows with the pointer where he is.
- Nishrin Kachwala -positive, screen was big and clear to see the code, neg- did no tlook up once at the audience to gauge whether they go it (looked for visual cues)
- Owen McGrath - (content +) discrete manageable topic (content -) not enough overview (presentation +) live coding (presentation -) no narration line by line, no eye contact, no feedback check, e.g., do you have question?
- Peter Olsoy - presentation: (+) partially explained what he would do before he did it, font seemed pretty large for people in the room to see (-) performed several lines without saying what they did, and didn't talk at all while coding or explain step by step, and dark background with light font didn't help visibility; content: (+) showed what smaller changes did; (-)
- Qiyang Hu: (+ content) good illustration on what he wants to show about the concepts. (-) the font is too small for the audience. (-) should try to avoid the long typing, he can copy/paste from the prepared text file/script.
- Rachel Arnold (+) Introduced what he was going to do before he started (-) Instructor did not verbalize what he was doing as he typed in the commands. Red sticky note up for one student not acknowledged, mistake not verbalized
- Tej V. Singh: (+) explained the variable's property through live examples (-) the work was repeatative. Also, no eye contact and it looks like a robot is demonstrating something on the screen.
- Wendy Christensen -- (+) appeared to be using sticky note system; evidence of preparation of demonstration (-) The background news article was distracting; not talking much while typing and not pausing much to talk about what was just typed, just discussed results of certain lines of code and may be going too fast as a result; if the sticky note system is being used, the (red?) sticky isn't being attended to by anyone or wasn't put down after a previous question

- Jason Tinant (+ content) live demonstration, the examplese were chunked so that a novice could follow that the variable name could be anything--probably reinforcing earlier discussion; (- content)
(+ presentation) spoke slowly, explained what he was doing as he was doing it. He paused between steps, which gave me time to keep caught up.
(- presentation) asking for feedback would have been nice.
- Adrienne Stilp -- (+ content) font is bigger - it was easier for me to read. (+ presentation) good change to explaining what he's typing as he's typing it and why. (-) when encountering the error, have more explanation about what the error message meant and how he knew to change headn to head. (it was in the error message.) to fix error it looks like a new concept was introduced - up arrow to get shell history and semicolons to separate lines. If students haven't seen this before it would be confusing. didn't ask for questions after explaining first loop - just moved on to changing the variable name.
- Andrii Zaiats - content: good explanation between a single and multiple line form, better links to previous modules. assumed people know what .dat means. presentation: very considerate, well paced, but perhaps used some of the fluid representation
- Benjamin Winjum - much improved - addressed the multiline command vs one line with ";", cleaned up the screen, raised it so above the students' heads, looked at audience, talked through commands as typing them, more expressive body language and movement, standing up, more readable type, (-) told students that they'd get something wrong with the trust me i've done that before
- Calvin Pritchard - (+) text was larger and easier to read, REPL lines entered were towards the top of the

screen where everyone could see. Also described the meaning of the commands as he typed them. (-) no use of arrays yet which is a common use case for a for loop
- Cristina Barber-(+content) repeated the example one more time with other variable name, explained what the error meant, explained how a more advance way of coding would work(+ presentation) stoped to explain each of the parts and did it by manually pointing the screen (-content) maybe three examples was an overkill (-presentation) nothing
- Dana Gehring-positive-eye contact and welcoming with audience; live demo; explained what he was doing; explained if you make a mistake how to correct it; could see the code much better with white background vs black; negative-maybe needs to pause to ask students if they have questions
- Hannah Ake - (+) engaged with the class, explained what he was going to do before doing it, described what he did after doing it, took time to explain his error, adjusted the background of the shell so it was easier to read. (-) didn't quite explain each command element in the for loop or why different variables got the same result (but that could have been explained earlier or later)
- Hannah Eve Houts - (+) LIGHT MODE! font size was definitely large enough, and he also used the phrase trust me, but in the context of avoiding a common pitfall, so I though it was actaully a really good use of the phrase. (-) maybe moved a little too quickly
- Lindsay McPhail -- (+ presentation) is more interactive (physically) with the code in explaining it. uses body language (almost in place of a concept map) to demonstracte what exactly a fore loop is doing; (+ content) used the typo as an opportunity to teach troubleshooting; (- presentation) maybe should do a formative assessment with the students to make sure they understand
- Marcia Ferreira (+ presentation) everything was better: standing up, looking at the audience, walking to the screen and pointing out the code, explaining each line, no screen distraction, bigger font and color contrast (- presentation) didn't ask if anyone had any questions (+ content) showed the error, connected to another lesson on how to retrieve the last command and fix the typo in there.
- Nishrin Kachwala : was standing, audience at he back can see the instructor, paused, look at the audience many times. He could have asked some questions to see if the concept of a vairable was clear, or may be the video is cut off before that part?

- Owen McGrath - (presentation +) much better narration, explain as you go, pointing, explained error and how to recover (presentation -) still not soliciting feedback and doing check to see if people are following along or have questions
- Peter Olsoy - (+) the instructor slowed down and explained each line, the text was larger and colors were morereadable (background + text), the window was resized so that the bottom section wasn't blocked anymore. The instructor was standing up and moving around, more animated and described both what he was doing and also what the results were. He also did a good job explaining his mistake, and used that as an opportunity to circle back and remind the learners about the up arrow and how that might change what it looks like (all on one line with semi-colons).
- Qiyang Hu: (+) this time much better in content and presentation. (+) I like the white background!
- Rachel Arnold (+) instructor spoke as he typed, explaining each word of the command, explained the mistake he made and why the computer returned the results (-) very good so only picky thing would be to stop and ask for more feedback/questions
- Tej V. Singh: (+) explained the variable's property through live examples. much much better eye contact and engagement with the learners.
- Wendy Christensen (+) text was easier to read because it was bigger and also higher up on the screen (also, I'm a fan of black text on white background because I think it's more readable); looked at audience frequently; explained each line of code and results of each line (which also slowed him down); explained the results of the typo in terms relatable to the concept being demonstrated (for loop, so error popped up twice); no red stickies up

REMOTE WORKSHOPS:

Blog post about remote workshops: https://carpentries.org/blog/2020/06/virtual-software-carpentry-workshop/

Enable in your zoom setings:
- -chat
- -private chat
- -co-host
- -who can share? All participants
- -annotation
- -non-verbal feedback
- -meeting reactions
- -join different meetings simultaneously on desktop
- -allow participants to rename themselves
- -Breakout room: Allow host to assign participants to breakout rooms when scheduling

Join the SWC slack workspace here: swcarpentry.slack.com
Down slack app to desktop/phone here: https://slack.com/downloads/

Team roles:
- -Instructor
- -Helpers: 1 helper per 15 students
- -1 extra helper with separate zoom link ready just for one-on-ones
- -1 operations & zoom person

Test your setup -- ideally on the day of your workshop.

Use simplified feedback form (e.g., on Google forms) to solicit open-ended feedback.
example: https://docs.google.com/forms/d/1JmQRn3qkx0ywGo4IX9HrtvtRHbJfF1bvN5zJpP9c6iA/viewform?edit_requested=true

- Jason Tinant -- (+ feedback) I like the breakouts (- feedback) Zoom has some intrinsic difficulties (+ feedback) I like the 3-hour block -- It gives me some reflection time each day
- Adrienne Stilp -- (+) I like the three hour per day format, because I have more time to think about the material and absorb it. Covering it all in two days would be overwhelming. (-) The time for the exercises has been too short for my groups. We haven't gotten through everyone presenting or giving feedback, and 90 seconds is really short for teaching something.
- Andrii Zaiats
- Benjamin Winjum (+) enjoy the breakup between talking and interactive exercises, (-) the use of video over zoom could benefit from a cleaner transition and better audio transition
- Calvin Pritchard -- (+) alternation between exercise and lecture keeps me engaged (-) a few minutes of preparation time in the breakout rooms would be helpful
- Cristina Barber-- (+) I love the practical sessions in which we present in small groups, (-) Maybe having

the lessons shared in the zoom call or a presentation could help to fix the ideas in a visual way (+) The topics are great and I like that we are getting more into the carpentries.
- Dana Gehring- I like that I can follow with what you are talking about on the online lesson, I enjoy the etherpad exercises and am feeling more comfortable sharing in the small groups, very nervous about the exit assignment, I spent my break time preparing so didnt really get a break
- Hannah Ake
- Hannah Eve Houts (+) I enjoyed the groups, I think 3 is a great size for practice lessons and feedback. I also like the etherpad check ins. It feels like a digital replacement for chatting in class durring coffee breaks (-) I would have liked to know we were doing a live coding lesson, just so i could be more emotionally prepared :) I know it was in the schedule, but a quick reminder before closing Tuesday would have been great
- Lindsay McPhail -- (positive): the pre-prepared materials making it easy to browse, following along, and reference the course content; friendliness, pace, and knowledge of instructors; breakout sessions with peer feedback; the ethernet pad for soliciting feedback. (negative): zoom fatigue!! suggestion for announcing a heads-up so we can better prep for the 90 sec teaching sessions
- Marcia Ferreira (+) having the materials online so I follow along. (-) the time for the exercises was too short, perhaps having a reminder the day before what to prepare so we can go straight to the teaching part
- Nishrin Kachwala Liked the learner profiles to understand how to tailor lessons. If we can prepare ahead of time for the coding presentation exercise.
- Owen McGrath -(+) very helpful discussion of the how and why for live coding. Great activites, I appreciate the discussions about projection, displauy issues too (-) Very minor: will we be given Carpentry Slack accounts?
- Peter Olsoy - (+) great mix of pedagogical material with applied breakout sessions (I agree with Hannah that 3 was a great number for the 90sec timeframe, compared to 4 which we ran out of time) ; (-) sometimes hard to follow where we are in the schedule, and the expectations beforehand about knowing an "episode" well enough to teach
- Qiyang Hu
- Rachel Arnold -- (+) The material presented has all been really relevant/good for me; (-) I would have liked more instruction about the live coding demo prior to the event--I wasn't sure if we were going to be given code/a function to present or if we would have to come up with something on the fly (which is difficult if we are novice coders), (+) I think the breakout-practice sessions are great/helpful
- Tej V. Singh: + breakout sessions are great to bring out the most vulnarable traits of the presenter. Contents are great; smooth flow of contents, overall a great session(-) five days commitment is hard to keep. I would prefer two full days rather than 3 hours per day for five days.
- Wendy Christensen -- (+) Really like that I can read along with the discussion (-) Would have liked to know that the live teaching and live coding were going to be linked to the lesson we read before the workshop (+) The breakout session exercises are useful and it's nice to interact with others during the workshop (also, having more time on Wednesday was super helpful for completing the live-coding exercise)

JOIN SLACK: https://swc-slack-invite.herokuapp.com/

DAY 4:

https://carpentries.github.io/instructor-training/demos_rubric/

Dysfluencies are helpful:
https://dspace.library.uu.nl/bitstream/handle/1874/306544/Bosker_AMlap_poster.pdf?sequence=1&isAllowed=y

Discussion session etherpad: https://pad.carpentries.org/community-discussions

Some more resources about teaching demos for instructor checkout:
- Suggested lessons for teaching demonstrations:
https://carpentries.github.io/instructor-training/demo_lessons/index.html

- A YouTube video of a recorded teaching demo session: https://www.youtube.com/watch?v=FFO2cq-3PPg

- Jason Tinant -- challenges: what material to cover -- framing where to start, pacing of the material, making sure I am inclusive and kind (welcoming) -- appropriate use of humor.
- Adrienne Stilp -- difficult to know what level of material to cover, so need to prepare for multiple levels based on what background students have; if they have some experience already, students may have already learned to do what you're teaching in a different way and could get confused or confuse fellow students; when using analogies, some students may not have the same cultural familiarity and wouldn't understand some analogies so you need to be conscious of what familiarity is implicitly required in your analogy
- Andrii Zaiats - the selection appropriate material, pace, examples. Being prepared for frequent questions and allow for the flexibility for those that are ahead
- Benjamin Winjum -- what general programming concepts are already familiar, what content (for example what level of mathematical sophistication) might be appropriate to use in examples, how adept are they at navigating between programs/windows on their computer, do they know basic concepts like operating system and that windows/mac is fundamentally different than ms word or web browser
- Calvin Pritchard -- different background knowledge and expertise make it more difficult to keep everyone engaged because some people will already know the material and others may not have the prerequisite knowledge. differences in compute environments (operating system etc) also may make installation and setup more difficult
- Cristina Barber-- awareness of difficulties that come with different backgrounds, how to create a welcoming environment for everyone,
- Dana Gehring-need to be sure that everyone is on the same page of where to start and that they have the necessary background infomation, it may be a good idea to have information that might be required background knowledge in the introductory email and possible links that people can look at prior to the start of the workshop
- Hannah Ake - starting points: how far back should I go? what terminology do I need to explain before proceeding? in carpentry, do I need to explain how to install things? Generally: how do I make sure my teaching style is inclusive of all abilities and learning types?
- Hannah Eve Houts - challenges: what terms need to be defined, and in what level of detail, people have different interests and may not be interested in the whole lesson, or that particular lesson and my tune out for too long
- Lindsay McPhail -- challenges: pacing- not going too fast (where some people fall behind) or too slow (where some become disinterested and distracted). How to know where to start and what foundations to cover. Figuring out different teaching styles best for learnings with different backgrounds, and how to create a combination teaching style that clicks with everyone in the class

- Marcia Ferreira - knowing where to start, knowing what is a good pace, knowing what analogies would resonate the best,
- Nishrin Kachwala - some articipants may think in a differnt lanuage, so pacing well is key. Beware of using words and body lanuage that may mean something else in another lanuage/culture.
- Owen McGrath
- Peter Olsoy -- challenges: what is "common knowledge"; people who aren't fully novice wanting you to go faster; not leaving people behind. Different goals that may or may not be met (e.g., unreasonable expectations)
- Qiyang Hu
- Rachel Arnold -- challenges: starting points, assumptions on academic priorities, assumptions of home life, culturally differences on what is important or acceptable to teach/learn, financial literacy/access
- Tej V. Singh:
- Wendy Christensen -- working with people who have potentially differing (and likely incomplete) mental models of the topic, helping people understand the "why" sufficiently that they can apply the information they learned to their context, handling people who have scattershot skill levels (e.g., might have a lot of experience creating journal-quality visualizations, but little generalizable experience using functions), maximizing the value of the workshop across many participants.

DAY 5

https://github.com/carpentries/workshop-template

https://carpentries.org/connect/

Breakout:

1. Who is your audience?
2. When/where do you plan to run a workshop?
    - Who are going to be the instructors?
    - How are you going to advertise this workshop?
3. What topics do you plan to cover? How do these topics address your audience's needs?
4. What do you need to be able to teach this (and other) workshops?
5. What could the WBDIH do to help you facilitate this?

- Jason Tinant (+) great pedogy -- very helpful tips. I like to model other great teachers -- And Ariel and Adam showed great poise, generosity, and kindness. It really helped to anchor a diverse group of people around a common practice of showing respect and understanding in communcating online. (-) I did not have a lot of prior knowledge of The Carpentries, which makes some of the asks a little challenging. And, this is a good opportunity to keep participating in The Carpentries with a short-term goal of offering workshops as an instructor.
- Adrienne Stilp
- Andrii Zaiats - abslutely benefited from the combination of pedagogy and carpentry material. The first

two days were really helpful in perparing to teach a workshop or anything for that matter - just plenty of very good tips and ideas to keep in mind. Overall the breakout sessions were very useful to engage with other participants in th workshop and do some practice. Perhpas one suggestion for future workshops, is to spend a bit more time in the beginning for people to get each other better via the breakout rooms.
- Benjamin Winjum (+) great exposure to the pedagogy employed with the carpentries, and I enjoyed the format of exposition, discussion, etherpad, and breaking into 2-3 person groups for some exercises (-) I actually would have liked a couple direct references (even if very brief notes in the etherpad) to further reading about teaching advice and best practices
- Calvin Pritchard
- Cristina Barber
- Dana Gehring
- Hannah Ake - (+) great pacing, great content, Ariel was great at including everyone in the course and gathering input from all members of the course (-) would be helpful to go over what the next day will cover at the end of each class, in order to get more teaching prep time and to confirm where we are in the schedule
- Hannah Eve Houts (+) The material was great and very useful. Pacing was great. I felt a lot more comfortable in the online format, and I liked the half-days. (-) some tinkering of the breakout room times would be good: it seemed like there was almost too much time in break outs on friday, but there was not enough in some of the others.
- Lindsay McPhail
- Marcia Ferreira (+) presentations were clear and it was nice to have the materials ahead of time to follow along. nice to have several instructors. i enjoyed the online training and probably the only way i could participate of this training as 2 full day in-person trainings would be difficult (-) wish we had more breakout sessions at the beginning at the week to spread the load of listening-only instruction. wish we were reminded of our assignments ahead of time so we could prepare them (giving a lecture, presenting ourselves, etc) before the training and not waste time doing that.
- Nishrin Kachwala
- Owen McGrath (+) Wonderful week, rich topics, very thoughfully presented. The pacing and activities work really well. The breakout activites allowed for personal interaction (-+) This was so successful online. Still trying to sort out what we miss being remote. I look forward to diving into the web pages and reviewing. The overview was helpful if whirlwind.
- Peter Olsoy
- Qiyang Hu
- Rachel Arnold (+) overall found the materials presented to be relevant and interesting--they will be very helpful for teaching carpentries workshops in the future (-) I think I would post the websites for the etherpad and schedule each day in the zoom chat just to make it easier/faster for people that are switching computers
- Tej V. Singh: (+) great workshop. The topics were relevant. The instructor and helpers did a commendable job covering the contents and connecting with learners. (-) five day span seemed a strech. It could hinder many people to commit. However, I undersnad that it could be the best approach considering all pros and cons. Overall a great experience - Thank you for the opportunity to learn to be an instructor for the carpentries.
- Wendy Christensen -- (+) fantasic training, great answers to questions that clearly come from thoughtful reflection on previous experience (-) Would have liked to have some more time in breakout rooms to discuss things interactively (+) loved the collaboration with Western Big Data Innovation Hub

https://www.surveymonkey.com/r/instructor_training_post_survey?workshop_id=instructor-training

https://carpentries.org/connect/

Email me if you have any questions: arokem@uw.edu